UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/834,668	04/13/2001	Kameran Azadet	13-5	5633

7590 03/31/2005

Ryan, Mason & Lewis, LLP
1300 Post Road, Suite 205
Fairfield, CT 06430

EXAMINER	
TORRES, JOSEPH D	
ART UNIT	PAPER NUMBER
2133	

DATE MAILED: 03/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/834,668	AZADET ET AL.	
	Examiner	Art Unit	
	Joseph D. Torres	2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03/03/2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18,37 and 38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) *1-11 and 37* is/are allowed.

6)☒ Claim(s) *12-15,17,18 and 38* is/are rejected.

7)☒ Claim(s) *16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 June 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. In view of the Applicant's amendment, the Examiner withdraws previous 35 USC § 112 rejections. In particular the Applicant contends "In order to avoid any potential ambiguity, Applicants have amended the specification at page 21, line 14, to include an express definition of this term" (referring to the term "at least two-dimensional branch metrics").

Response to Arguments

2. Applicant's arguments filed 03/03/2005 have been fully considered but they are not persuasive.

The Applicant contends, "the term, 'precomputing' means computing a particular value, such as a branch metric, during a current clock cycle that is required for a future clock cycle (and not computing one type of value, i.e., a branch metric, before another type of value, i.e., a new path metric, as suggested by the Examiner)".

The Examiner disagrees and asserts that Merriam Webster's Collegiate Dictionary defines pre-computing as a computing earlier than, prior to or before and is consistent with usage by one of ordinary skill in the art at the time the invention was made. Furthermore; Figure 17 of Mui teaches the intersymbol estimates are computed in Template Generator 1606 for use in ISIC Decoder 1604 where branch metrics are

calculated according to Viterbi's algorithm. The intersymbol estimates are pre-computed in the Template Generator prior to being sent to ISIC decoder 1606.

The Applicant contends, "Thus, Mui does not disclose or suggest "precomputing' a value, i.e., computing the value, such as a branch metric, during a current clock cycle that is required for a future clock cycle. Further, since Mui does not contain registers, such as pipeline".

The Examiner disagrees and asserts that Merriam Webster's Collegiate Dictionary defines pre-computing as a computing earlier than, prior to or before and is consistent with usage by one of ordinary skill in the art at the time the invention was made.

The Examiner asserts that a branch metric is a pre-computed value since the computation of branch metrics is required for calculating candidate path metrics.

The Applicant contends, "Mui does not disclose or suggest"... "'selecting one of said precomputed ISI estimate based on a second past decision from a corresponding state,' as required by independent claims 12 and 38."

The Examiner disagrees and asserts that col. 25, lines 34-67 in Mui explicitly teach selecting one of said pre-computed ISI estimate pre-computed by precursor equalizer 1402 in Figure 14 in Mui based on a second past decision (Note: col. 25, lines 48 of Mui teaches a second decision criteria based on state indices) from a corresponding state (x,y) in order to produce selected components of the ISI template.

As per amended claim 15:

The Examiner asserts that 37CFR 1.111(b) states, "The reply must present arguments pointing out the specific distinctions believed to render the claims, **including any newly presented claims**, patentable over any applied references".

Since the applicant presents no arguments specifically for newly amended claim 15, the Examiner refers the applicant to arguments above concerning claim 12. As pointed out above, Figure 17 of Mui teaches the intersymbol estimates are computed in Template Generator 1606 for use in ISIC Decoder 1604 where branch metrics are calculated according to Viterbi's algorithm. Col. 25, lines 34-67 in Mui explicitly teach selecting one of said pre-computed ISI estimate pre-computed by precursor equalizer 1402 in Figure 14 in Mui based on a second past decision (Note: col. 25, lines 48 of Mui teaches a second decision criteria based on state indices) from a corresponding state (x,y) in order to produce selected components of the ISI template. The operation of selecting requires that precomputed ISI estimates be buffered prior to pruning the precomputed ISI estimates since all of the precomputed ISI estimates must be available for selection, i.e., precomputed ISI estimates are not intermediate calculations but data necessary for subsequent processes.

The Examiner disagrees with the applicant and maintains all rejections of claims 12-15,17,18 and 38. All amendments and arguments by the applicant have been considered. It is the Examiner's conclusion that claims 12-15,17,18 and 38 are not patentably distinct or non-obvious over the prior art of record in view of the reference,

Mui; Shou Yee (US 6690739 B1) as applied in the last office action, filed 21 June 2004.

Therefore, the rejection is maintained.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 12-15, 17 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Mui; Shou Yee (US 6690739 B1; Note: the effective filing date is 14 January 2000).

See the Non-Final Action filed 21 June 2004 for detailed action of prior rejections.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claim 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mui; Shou Yee (US 6690739 B1; Note: the effective filing date is 14 January 2000).

See the Non-Final Action filed 21 June 2004 for detailed action of prior rejections.

Allowable Subject Matter

5. Claims 1-11 and 27 are allowed.

6. Claim 16 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

See the Non-Final Action filed 21 June 2004 for detailed action of prior rejections.

Conclusion

1. This is an RCE of applicant's earlier Application. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the

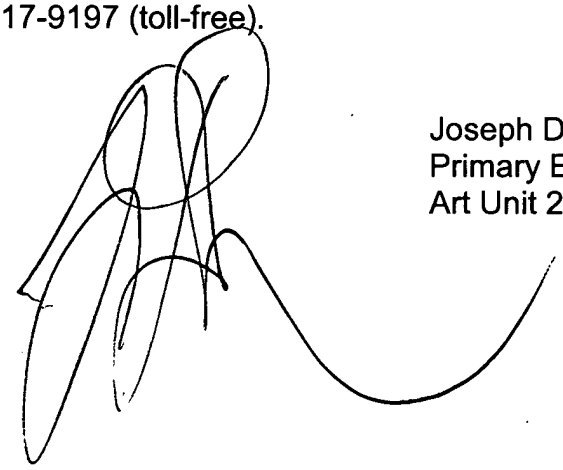
earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph D. Torres whose telephone number is (571) 272-3829. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Joseph D. Torres, PhD
Primary Examiner
Art Unit 2133